

IN THE CLAIMS

Please amend the claims as follows:

1 Claim 1 (Currently Amended): A communication system on an IP network (50)
2 between an automation equipment (10) comprising:
3 at least one processing unit capable of running a program (20) to provide automation
4 functions; and
5 one or more remote devices (30) running a computer program or group of computer
6 programs, characterised in that
7 wherein the communications system is based on the Simple Object Access Protocol
8 (SOAP) for the purpose of providing the remote device (30) with supervision, display,
9 control, configuration or programming functions of the automation equipment (10), and in
10 that the communications system comprises, in the automation equipment (10), at least one
11 WEB service (21) or one WEB client (22) which are capable of interacting with the program
12 (20) of the automation equipment (10), of decoding messages received (51, 54) from the IP
13 network (50) encoded according to the SOAP protocol and of encoding according to the
14 SOAP protocol messages to be sent (52, 53) on the IP network (50).

15

16 Claim 2 (Currently Amended): A communication system according to claim 1,
17 wherein the characterised in that an automation equipment (10) includes at least one WEB
18 service (21) able to receive from the IP network (50) requests (51), coming from at least one
19 WEB client application (31) contained in a remote device (30) and of sending on the IP
20 network (50) responses (52) to the WEB client application (31) of the remote device (30).

21

22 Claim 3 (Currently Amended): A communication system according to claim 1,
23 wherein the characterised in that an automation equipment (10) includes at least one WEB

1 client (22) able to send on the IP network (50) requests (53) to at least one WEB server
2 application (32) contained in a remote device (30) and of receiving from the IP network (50)
3 responses (54), coming from the WEB server application (32) of the remote device (30).
4

5 Claim 4 (Currently Amended): A communication system according to claim 2, further
6 wherein ~~characterised in that~~ a service description document (61) describes the capacities of
7 one or more WEB services (21) implanted in the ~~an~~ automation equipment (10), this service
8 description document (61) being accessible by the ~~for a~~ remote device (30, 30") either from
9 its local resources, or from remote resources identified by a URL, URI or IP address.
10

11 Claim 5 (Currently Amended): A communication system according to claim 4,
12 wherein ~~characterised in that~~ the service description document (61) complies with a service
13 description language referring to the SOAP protocol or to the HTTP, HTTPS protocol and
14 providing a grammar based on the eXtensible Markup Language (XML).
15

16 Claim 6 (Currently Amended): A communication system according to claim 5,
17 wherein ~~characterised in that~~ the service description document (61) may contain one or more
18 URL, URI or IP addresses of one or more WEB services (21).
19

20 Claim 7 (Currently Amended): A communication system according to claim 6,
21 wherein ~~characterised in that~~ the service description document (61) complies with the Service
22 Description Language (SDL).
23

1 Claim 8 (Currently Amended): A communication system according to claim 6,
2 wherein ~~characterised in that~~ the service description document (61) complies with the SOAP
3 Contract Language (SCL).

4
5 Claim 9 (Currently Amended): A communication system according to claim 6,
6 wherein ~~characterised in that~~ the service description document (61) complies with the
7 Network Accessible Service Specification Language (NASSL).

8
9 Claim 10 (Currently Amended): A communication system according to claim 6,
10 wherein ~~characterised in that~~ the service description document (61) complies with the Web
11 Services Description Language (WSDL).

12
13 Claim 11 (Currently Amended): A communication system according to claim 6,
14 wherein ~~characterised in that~~ several service description documents (61) complying with
15 different service description languages can describe the capacities of a same WEB service
16 (21).

17
18 Claim 12 (Currently Amended): A communication system according to claim 11,
19 wherein ~~characterised in that~~ the service description document (61) is compressed in a
20 standard compression format for files and documents.

21
22 Claim 13 (Currently Amended): A communication system according to claim 11,
23 wherein ~~characterised in that~~ the service description document (61) of an automation
24 equipment (10) is stored in storage means (60) located in the automation equipment (10).

25

1 Claim 14 (Currently Amended): A communication system according to claim 11,
2 wherein ~~characterised in that~~ the service description document (61) of an automation
3 equipment (10) is stored in storage means (60) located in a remote device (30).
4

5 Claim 15 (Currently Amended): A communication system according to claim 11,
6 wherein ~~characterised in that~~ a generator (62) is capable, following a request emanating from
7 a remote device (30, 30"), of constructing a service description document (61) dynamically,
8 describing the capacities of one or more WEB services (21) implanted in an automation
9 equipment (10).
10

11 Claim 16 (Currently Amended): A communication system according to claim 15,
12 wherein ~~characterised in that~~ the generator (62) of a service description document (61) of an
13 automation equipment (10) is accessible, for a remote device (30, 30"), via a URL, URI or IP
14 address.
15

16 Claim 17 (Currently Amended): A communication system according to claim 16,
17 wherein ~~characterised in that~~ the generator (62) of a service description document (61) of an
18 automation equipment (10) is stored in storage means (60) located in the automation
19 equipment (10) or in storage means (60) located in a remote device (30).
20

21 Claim 18 (Currently Amended): A communication process on an IP network (50)
22 between an automation equipment (10) running a program (20) to provide automatic control
23 functions and a remote device (30) running a computer program or group of computer
24 programs, the purpose of the communication process being to provide the remote device (30)
25 with supervision, display, control, configuration or programming functions of the automation

1 equipment (10), ~~characterised in that~~ the communication process is based on a
2 communications system based on the SOAP protocol and comprising ~~comprises the~~
3 ~~following stages:~~

4 running a computer application in the remote device or in another remote device;

5 ~~• A service discovery stage (A) wherein a computer application (33), running in the~~
6 ~~remote device (30) or in another remote device (30"), sends~~ sending from the application a
7 read request (55) on the IP network (50) in order to receive, in a response (56), a service
8 description document (61),

9 ~~• A development stage (B) wherein, developing, manually or automatically, by means~~
10 ~~of the service description document (61), it is possible to develop manually or automatically,~~
11 ~~all or part of a WEB client application (31) and/or a WEB server application (32) in the~~
12 ~~remote device (30) so as to be able to communicate with a WEB service (21) and/or a WEB~~
13 ~~client (22) of the automation equipment (10) respectively.~~

14 ~~• A communication stage (C) communicating between a WEB client application (31)~~
15 ~~and/or a WEB server application (32) of the remote device (30) and a WEB service (21)~~
16 ~~and/or a WEB client (22) of the automation equipment (10) on the IP network (50), by means~~
17 ~~of requests (51, 53) and responses (52, 54) complying with the SOAP protocol.~~

18
19 Claim 19 (Currently Amended): A communication process on an IP network (50)
20 between an automation equipment (10) running a program (20) to provide automatic control
21 functions and a remote device (30) running a computer program or group of computer
22 programs, the purpose of the communication process being to provide the remote device (30)
23 with supervision, display, control, configuration or programming functions of the automation
24 equipment (10), ~~characterised in that~~ the communication process is based on a

1 communications system based on the SOAP protocol and comprising ~~comprises the~~
2 ~~following stages:~~

3 running a computer application in the remote device;

4 ~~• A service discovery stage (A) wherein a computer application (33), running in the~~
5 ~~remote device (30), sends~~ sending from the application a read request (55) on the IP network
6 (50) in order to receive, in a response (56), a service description document (61),

7 ~~• A communication stage (C) communicating~~ between a WEB client application (31)
8 and/or a WEB server application (32) included in the computer application (33) of the remote
9 device (30) and a WEB service (21) and/or a WEB client (22) of the automation equipment
10 (10) on the IP network (50), by means of requests (51, 53) and responses (52, 54) complying
11 with the SOAP protocol.

12

13 Claim 20 (Currently Amended): A communication process according to one of claims
14 18 or 19, wherein ~~characterised in that~~ the request (55) contains a URL, URI or IP address
15 which marks either a service description document (61), or a generator (62) capable of
16 constructing a service description document (61) dynamically.